



# 7 OPPORTUNITIES FOR PARTICIPATION

**The wealth of new investigations made possible by SIM will provide ample opportunities for participation by a broad research community.**

*We have highlighted the importance of the SIM science program, but what are the opportunities for the astronomical community at large? SIM will involve a broad community of researchers, most of whom may not consider themselves interested in astrometry per se, but who will rely on precision astrometry as a powerful tool in their research. Recognizing that the most productive science operation of SIM requires detailed advance planning, NASA is now making significant funding available to support SIM-related research.*

In 1996, NASA selected a Science Working Group to represent the scientific community. The group was tasked to define key scientific questions that SIM should address. These questions, in turn, were used as the basis on which the Project defined instrument specifications. A SIM Science Team will be selected competitively to replace the current Science Working Group through a NASA Announcement of Opportunity (AO), targeted for release by mid-1999. Some Science Team members will propose and will be selected for individual research projects; others will become leaders of teams conducting key projects — campaigns to answer the most important scientific questions and those that will use the largest portions of SIM resources. Once selected, Science Team members will be expected to work closely with the SIM Project prior to

launch to ensure that the mission meets its scientific goals.

In addition to the allocations to the Science Team, a significant fraction of the available time will be devoted to a Guest Observer Program, with awards made approximately 2 years before SIM's launch. As a pointed instrument, SIM will have the ability to respond to "target of opportunity" observations such as supernovae and stellar microlensing events, and the observing schedule will be kept flexible enough to provide this important function. A second Guest Observer solicitation is planned for early in the mission after launch.

## **Target Selection**

SIM is a targeted instrument with a relatively short list of targets. Effective scientific use of SIM depends on the careful selection and characterization of targets

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to the greatest extent possible prior to launch. For the scientific community, this means that NASA recognizes the need to support the task of target selection, including supporting observations where necessary, well before launch. The first such task — defining astrophysical criteria for stars to be used in the SIM astrometric reference grid — was the target of a NASA Research Announcement (NRA) released in mid-1998, leading to selection of a number of proposals in fall 1998. (Approximately 4,000 stars will be selected as a SIM reference grid; positions of science targets will be referenced to this grid.) A second NRA for further grid studies will be released in mid-1999. More NRAs are planned, and as the grid issues are resolved, the emphasis will change to other preparatory science, that is, science that requires significant advance planning. SIM is expected to be launched in 2005 — but now is the right time for astronomers to be considering important projects that complement their research interests.

### **Michelson Fellowship Program**

To assist the science community and encourage the next generation of astrophysicists to become familiar with interferometry, the SIM Project has established the Michelson Fellowship Program. This program will bring together students and established researchers in a unique effort to promote contacts and

collaboration among all participants of the program. As part of this effort, JPL will organize an annual symposium to bring all current Michelson Fellows together for networking and updating on the latest results.

The Michelson Fellowship Program has several facets. The program will fund postdoctoral research at a U.S. academic or research institution with an established interferometry program. Fellowships will be also available to support graduate students working in interferometry. These fellowships will be awarded competitively by an independent panel starting in 1999. Furthermore, several undergraduate students will be supported every year to conduct summer research projects in optical interferometry. Summer schools will be held at locations near optical interferometry facilities in Arizona and California with the goal of building a community of researchers in the field of optical interferometry. A specific goal is to encourage the scientific use of these instruments by young researchers — graduate students and postdocs. These people will be the users of the next generation of interferometers, which, of course, includes SIM. A distinguished lecturer series will complete this extensive program.

Current information on these programs is on the SIM Web page at — <http://sim.jpl.nasa.gov>